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OF

SCIENTIFIC PAPERS

1800—1900

SUBJECT INDEX

VOLUME I

PURE MATHEMATICS

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CATALOGUE
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SCIENTIFIC PAPERS
1800–1900

SUBJECT INDEX

VOLUME I

PURE MATHEMATICS

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AT THE UNIVERSITY PRESS
1908

ARRANGED FOR A COMMITTEE OF THE ROYAL SOCIETY
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HERBERT McLEOD, LL.D., F.R.S.

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PREFACE

WHEN the plan for a Catalogue of Scientific Papers was drawn up in 1857 by the Royal Society, it was also contemplated that a Subject Index to the papers should be made. During the compilation of the well known twelve volumes of the Catalogue of Authors (1800—1883) much material was collected for the Subject Index by the Committee of the Society which had charge of the work, but nothing was printed.

In 1898 it was determined to undertake the continuation for the period 1884—1900, and at the same time to prepare material for a Subject Index for these last seventeen years of the century. It was afterwards decided that one Index should be made to the papers of the whole of the Nineteenth Century; and to bring this Index into relation with the International Catalogue of Scientific Literature, which deals with publications subsequent to 1900, the Index was to be arranged in accordance with the schedules of the different sciences which form the basis of the International Catalogue.

The extent of the work for the period 1884—1900 proved to be so great that the resources of the Royal Society would have been quite inadequate for its completion. Its continuation has been made possible by liberal donations received from various sources. The Catalogue is especially indebted to Dr Ludwig Mond, F.R.S., a member of the Committee entrusted with its preparation, who has encouraged and forwarded its progress in every way for many years past; in particular, in addition to similar generous donations at earlier stages, Dr Mond recently undertook to provide an extremely liberal subsidy during the three years 1907—9, which has enabled the work to be pressed forward rapidly.

The Subject Index will be published as separate Index-volumes for each of the seventeen Sciences of the Schedules of the International Catalogue, viz. Mathematics, Mechanics, Physics, Chemistry, Astronomy, Meteorology, Mineralogy, Geology, Geography, Palaeontology, Biology, Botany, Zoology, Anatomy, Anthropology, Physiology, and Bacteriology.

The practical advantage which will accrue from thus classifying the literature of each Science seems to be amply sufficient, in spite of unavoidable imperfections, to justify the great expense that has been involved. In the past a student interested in a single branch of the subject would probably consult special Treatises and Reports from which he could obtain references to the more important memoirs. But it often happens that such references are transferred simply from one treatise to another, and

experience shows that important contributions that have once dropped out of sight may for a long time, or indeed ever afterwards, be overlooked. When the whole literature is set out systematically and exhaustively under appropriate headings as in the present volume, such accidents are guarded against so far as seems to be possible.

The present volume dealing with Pure Mathematics is the first instalment of the Subject Index: it contains 38748 entries referring to 700 serials. It is believed that these entries cover all the contents of the serials indexed with the exception of about 750 short notes (mostly falling under 6810 and 7210) which were not thought of sufficient permanent interest to be entered.

The Index titles for papers published from 1884 to 1900 inclusive have been made by Referees familiar with the subjects, who have consulted the original papers and have made the titles from the contents of the papers and not merely from their headings. It was intended that the Index entries for the papers from 1800 to 1883 should be made from the titles as printed in the Catalogue of Authors, but it was soon found that many of the titles were too indefinite for such minute classification, and reference has had to be made to the original papers in a large number of cases. The latter part of this work was commenced by the late Mr George Griffith of Harrow, whose untimely death was a great loss to the Committee.

The entries in the Index are arranged so that reference can be made to the complete titles in the Catalogue of Scientific Papers. Generally the author's name together with the date will indicate the volume in which the title of the paper may be found. These clues are insufficient when the paper is anonymous or occurs in Volume XII or in the additions to Volume VI. They are also at fault for titles marked with an asterisk showing that they belong to previous volumes; in these cases the number of the volume is given in the Index entry in small Roman numerals within brackets.

When an error has been found in an author's name in the Catalogue, it is corrected in the Index by a reference made to the error.

The Index contains references to some papers of dates earlier than 1884 which were omitted in previous volumes of the Catalogue: these are indicated by an asterisk placed before the date; the full titles of these papers will be given in the continuation of the Catalogue of Authors.

When an author's personal name does not appear in the heading of an original paper, no attempt has been made to find the name for the Index, but this will be done for the Catalogue of Authors.

The Catalogue of Authors for the period 1884 to 1900 is in preparation; the material will not however be quite complete until the Subject Indexes for the various Sciences have been reduced into order.

Entries on the same subject are arranged, so far as possible, in order of

date irrespective of the authors' names, with the endeavour to present the subject in the historical form. This grouping of the entries, involving modifications of titles prepared by different Referees, or by the same Referee at different times, has been one of the most difficult problems in the preparation of the Index.

The abbreviations of the names of the serials used in the Royal Society Catalogue have been further shortened for the Index. As the abbreviations are not uniform in all the volumes, it will be found that the same journal may be indicated by several different abbreviations, but in each case the one selected is that which was used in the volume in which the title of the paper occurs.

In the case of serials commencing since 1883, the abbreviations adopted in the International Catalogue have been used as a guide.

The list of serials will, it is hoped, be a valuable feature of the Index. It has been drawn up by the Director and contains the names of 701 serials from which the entries in the Index have been taken. Each title is preceded by the abbreviation which represents the serial in the Index; the date of commencement of the serial is given, and if it is extinct the date of the last volume is added. There are appended symbols representing the names of twenty-three British Libraries in some of which the serials may be found; where the set is incomplete the symbol is followed by *i*. The information from which this list has been compiled was obtained, in the first instance, from published catalogues; subsequently the list was submitted to the custodians of many of the libraries, who kindly marked many serials which had not been found in the catalogues used. The thanks of the Committee for this valuable assistance are due to Mr F. Jenkinson of the Cambridge University Library, Mr E. W. B. Nicholson of the Bodleian Library, the Librarian of the Radcliffe Library, the Librarian of the Patent Office, Dr B. Daydon Jackson and Mr A. W. Kappel of the Linnean Society, Mr W. H. Wesley of the Royal Astronomical Society, Mr C. V. Crook of the Geological Museum, Mr F. W. Clifford of the Chemical Society, and Mr R. W. Chambers of University College, London; Mr R. Lloyd Praeger obtained the information from the five libraries in Dublin, and Dr Hugh Marshall, F.R.S., from two libraries in Edinburgh and two in Glasgow.

Although much care has been expended in making this list as accurate as possible, it is probable that some errors will still be found and the Director will be thankful to any one who will send corrections: portions of the list will be required for the subsequent volumes of the Index.

The subjects are arranged under the registration numbers adopted in the International Catalogue; a copy of Schedule A, Mathematics, is prefixed to the Index, with indication of the pages on which the titles for the

different sections occur. It has occasionally been found convenient, in order to save repetition in printing, to group entries under a sub-heading which is not contained in the International Catalogue Schedule. Where this has been done the sub-heading is printed in italics. In some of these cases the words of the sub-heading are understood to exist before the entries following them, and consequently these entries commence with small letters. These minor classifications, being often made mechanically on the basis of the explicit mention of the sub-heading, are not to be taken as exhaustive; cognate entries may be found elsewhere under the same main heading. The unit of classification is thus the complete numbered heading.

The first portion of the present volume of the Index having been sent to press before the whole of the material had been sorted, some slips belonging to earlier sections were discovered during the arrangement of the later ones. These titles have been placed in an Appendix under their appropriate registration numbers.

The following referees have assisted at various times in the preparation of the Subject Index in Pure Mathematics:—the late Professor J. D. Everett, F.R.S., Mr R. J. Dallas, Miss Alice Everett, Mr R. Hargreaves, Miss W. M. Hudson, Mr H. Knapman, Miss E. Perrin and Mr G. Harold Wilson. The Committee is indebted to them for much valuable help.

The arrangement of the contents of this volume for the press has been made by Mr R. J. Dallas, M.A., of King's College, Cambridge. To him and to Miss Bremner and the members of the Catalogue Staff thanks are due for careful and conscientious work.

At the request of the other members of the Committee, Mr G. B. Mathews, F.R.S., examined the whole of the proof-sheets, and made suggestions for their improvement: he was also consulted from time to time about questions of arrangement, head lines and sub-headings.

When the time for going to press approached, the Committee learned with much satisfaction that the Syndics of the Cambridge University Press were willing to undertake the complete risk of printing and publishing, as regards both the Catalogue of Scientific Papers and the Subject Index. It will be the care of the Committee, and it is hoped of the Scientific world generally, to use their best endeavours that this public-spirited action shall not result in financial loss.

Finally the thanks of the Committee are due to the officials of the Cambridge Press for their unfailing courtesy in the discharge of a complex task.

March 1908.

LIST OF SERIAL PUBLICATIONS

WITH THE ABBREVIATIONS OF THEIR TITLES USED IN THE INDEX, AND LIBRARIES WHERE THE SERIALS CAN BE CONSULTED.

The date following the title of a serial indicates the year of its commencement; if a second date is given it marks the termination of the serial.

The letters following the dates indicate libraries where the serials are to be found: if the serial is incomplete, the symbol of the library is followed by *i*.

B.M.	British Museum.	Glasg.P.S.	Royal Philosophical Society of Glasgow.
Camb.P.S.	Cambridge Philosophical Library.	Glasg.U.	Glasgow University.
Camb.U.	Cambridge University Library.	Linn.S.	Linnean Society.
Chem.S.	Chemical Society.	Math.S.	Mathematical Society.
Dub.N.L.I.	National Library of Ireland, Dublin.	N.H.M.	Natural History Museum.
Dub.R.C.S.	Royal College of Science, Dublin.	Oxon.B.	Bodleian, Oxford.
Dub.R.D.S.	Royal Dublin Society.	Oxon.B.(R.)	Deposited in Radcliffe.
Dub.R.I.A.	Royal Irish Academy, Dublin.	Oxon.R.	Radcliffe, Oxford.
Dub.T.C.	Trinity College, Dublin.	P.O.	Patent Office, London.
Edinb.R.S.	Royal Society of Edinburgh.	R.A.S.	Royal Astronomical Society.
Edinb.U.	Edinburgh University.	R.S.	Royal Society.
Geol.M.	Geological Survey Museum, Jermyn St.	U.C.L.	University College, London.

Abv. Mm. S. Ém. ..... Mémoires de la Société d'Émulation d'Abbeville. Abbeville.
Abv. S. Mm. ..... 1833— B.M.; Camb.U.*i.*; Dub.T.C.; Edinb.R.S.*i.*; Linn.S.*i.*; N.H.M.*i.*; Oxon.B.*i.*; R.S.*i.*

A. C. ..... Annales de Chimie, ou Recueil de Mémoires concernant la Chimie et les Arts qui en dépendent. Paris.
1789— B.M.; Camb.U.; Chem.S.; Dub.R.D.S.*i.*; Dub.T.C.*i.*; Edinb.R.S.; Edinb.U.; N.H.M.; Oxon.B.*i.*(R.); P.O.; R.S.; U.C.L.

Ac. Cæs. Leop. N. Acta ... Nova Acta physico-medica Academiæ Cæs. Leopoldino-Carolinæ Naturæ Curiosorum. Erlangen, Bonn, Breslau.
1758— Camb.P.S.; Camb.U.; Chem.S.*i.*; Dub.T.C.; Edinb.R.S.*i.*; Edinb.U.; Linn.S.*i.*; Math.S.*i.*; N.H.M.; Oxon.R.; R.A.S.*i.*; R.S.; U.C.L.*i.*
See **Ac. Nt. C. N. Acta** *and* **Cæs. Leop. Ac. N. Acta.**

Acireale Ac. At. ..... Atti e Rendiconti dell' Accademia di Scienze, Lettere e Arti dei Zelanti e PP. dello Studio di Acireale.
1890— Camb.P.S.*i.*; N.H.M.*i.*; R.S.*i.*

A. Cond. Pon. Chauss. ... Annales des Conducteurs des Ponts et Chaussées; recueil de mémoires, etc., concernant le Service de Conducteurs des Ponts et Chaussées. Paris.
1857— P.O.

A. Cons. Arts et Mét. ... Annales du Conservatoire des Arts et Métiers. Paris.
1861— B.M.; Camb.U.; Glasg.P.S.*i.*; Oxon.B.; P.O.; R.S.
See **Par. A. Cons.**

Ac. Nt. C. N. Acta ..... *See* **Ac. Cæs. Leop. N. Acta** *and* **Cæs. Leop. Ac. N. Acta.**

Acta Mth. ..... Acta Mathematica. Stockholm.
1882— B.M.; Camb.P.S.; Camb.U.; Dub.T.C.; Edinb.R.S.; Edinb.U.; Glasg.U.; Math.S.; Oxon.R.; R.A.S.; R.S.; U.C.L.

List of Serial Publications

A. der Hydrog. .... Annalen der Hydrographie und Maritimen Meteorologie. Herausgegeben von der Deutschen Seewarte in Hamburg. Berlin.
1873— B.M.; P.O.*i.*

A. di C. ..... Annali di Chimica. Milano.
1845—1900. B.M.; Chem.S.*i.*; P.O.*i.*

Aer. J. ..... The Aeronautical Journal. London.
1897— B.M.; Camb.U.*i.*; P.O.; R.S.

A. Gén. Civ. ..... Annales du Génie Civil; Recueil de Mémoires sur les Mathématiques pures et appliquées; l'Astronomie, la Chimie, la Physique, etc. Paris.
1862—80. B.M.; Camb.U.; Dub.R.C.S.*i.*; P.O.

A. Hydrog. ..... Annales Hydrographiques. Recueil d'avis, instructions, documents, et mémoires relatifs à l'Hydrographie et à la Navigation. Paris.
1849— B.M.; Ebinb.R.S.*i.*; Oxon.B.; R.A.S.*i.*; R.S.*i.*

Aix Ac. Mm. .....
Aix Mm. .....
Aix Mm. Ac. ..... Mémoires de l'Académie des Sciences, Agriculture, Arts et Belles-lettres. Aix.
1819— B.M.; Dub.R.I.A.; N.H.M.*i.*; Oxon.B.*i.*; R.S.*i.*

Alb. I. T. ..... Transactions of the Albany Institute. Albany.
1830— B.M.; N.H.M.; R.S.

Allelod. S. T. ..... The Transactions of the Allelodidactic Society. London.
1848. R.S.

Am. Ac. Mm. ..... Memoirs of the American Academy of Arts and Sciences. Cambridge and Boston.
1785— B.M.*i.*; Camb.P.S.; Camb.U.; Dub.R.D.S.*i.*; Dub.R.I.A.*i.*; Dub.T.C.*i.*; Edinb.R.S.; Linn.S.; N.H.M.; Oxon.R.; P.O.*i.*; R.A.S.; R.S.; U.C.L.*i.*
See **Bost. Am. Ac. Mm.** *and* **Bost. Mm. Am. Ac.**

Am. Ac. P. ..... Proceedings of the American Academy of Arts and Sciences. Boston.
1846— B.M.; Camb.P.S.; Camb.U.; Chem.S.*i.*; Dub.R.D.S.; Edinb.R.S.; Glasg.P.S.; Glasg.U.*i.*; Linn.S.; N.H.M.; Oxon.R.; P.O.; R.A.S.; R.S.; U.C.L.*i.*

Am. Ac. P. ..... Proceedings of the American Association for the Advancement of Science. Washington, Salem.
1848— B.M.*i.*; Camb.P.S.; Camb.U.; Dub.R.I.A.; Edinb.R.S.*i.*; Glasg.P.S.*i.*; Glasg.U.*i.*; Linn.S.; N.H.M.; Oxon.B.; Oxon.R.; P.O.; R.A.S.*i.*; R.S.

Am. C. ..... The American Chemist, a monthly Journal of theoretical Chemistry. New York.
1871—77. Chem.S.*i.*; N.H.M.; P.O.

Am. Eng. & Railroad J. American Engineer and Railroad Journal. New York.
1893—95. B.M.; P.O.

Amiens Ac. Mm. .....
Amiens Mm. .....
Amiens Mm. Ac. .....
Amiens Mm. Ac. Sc. ... Mémoires de l'Académie des Sciences, Agriculture, Commerce, Belles-lettres, et Arts du département de la Somme. Amiens.
1835— B.M.; Camb.U.; Dub.T.C.*i.*; N.H.M.*i.*; Oxon.B.*i.*; R.S.*i.*

A. Mines ..... Annales des Mines, ou Recueil des Mémoires sur l'exploitation des Mines, et sur les Sciences et les Arts qui s'y rapportent. Paris.
1817— B.M.; Camb.U.; Chem.S.*i.*; Dub.R.I.A.; Edinb.R.S.; Edinb.U.*i.*; Glasg.P.S.*i.*; N.H.M.; Oxon.B.(R.); P.O.; R.S.

Am. I. T. ..... [Reports and Transactions] of the American Institute of the City of New York. Albany.
1841— B.M.*i.*; P.O.*i.*; R.S.*i.*

Am. J. Mth. ..... American Journal of Mathematics. Baltimore.
1878— B.M.; Camb.P.S.; Camb.U.; Dub.N.L.I.; Dub.R.I.A.; Dub.T.C.; Edinb.R.S.; Edinb.U.; Glasg.U.*i.*; Math.S.; Oxon.B.; Oxon.R.; R.A.S.; R.S.; U.C.L.

Am. J. Sc. ..... The American Journal of Science and Arts; Silliman. New Haven.
1818— B.M.; Camb.P.S.*i.*; Camb.U.; Chem.S.*i.*; Dub.N.L.I.*i.*; Dub.R.C.S.*i.*; Dub.T.C.*i.*; Edinb.R.S.; Edinb.U.; Geol.M.; Glasg.P.S.; Glasg.U.*i.*; N.H.M.; Oxon.B.; Oxon.R.; P.O.; R.A.S.*i.*; R.S.
See **Silliman J.**

Am. Ph. S. P. ..... Proceedings of the American Philosophical Society. Philadelphia.
1840— Camb.P.S.; Camb.U.*i.*; Chem.S.*i.*; Dub.R.I.A.; Edinb. R.S.; Glasg.P.S.*i.*; Glasg.U.*i.*; Linn.S.; Math.S.*i.*; N.H.M.*i.*; Oxon.B.; Oxon.R.*i.*; P.O.; R.A.S.; R.S.; U.C.L.

Am. Ph. S. T. ..... Transactions of the American Philosophical Society. Philadelphia.
1771— B.M.*i.*; Camb.P.S.; Camb.U.*i.*; Chem.S.*i.*; Dub.R.I.A.;

Edinb.R.S.; Linn.S.; N.H.M.*i.*; Oxon.B.; Oxon.R.*i.*; P.O.; R.A.S.*i.*; R.S.; U.C.L.*i.*

Am. S. CE. T. ..... Transactions of the American Society of Civil Engineers. New York.
1871— P.O.

Amst. Ak. Jb. ..... Jaarboek van de Koninklijke Akademie van Wetenschappen gevestigd te Amsterdam. Amsterdam.
1857— B.M.; Camb.P.S.; Dub.R.D.S.; Dub.T.C.; Edinb.R.S.*i.*; Glasg.P.S.*i.*; Linn.S.; N.H.M.; R.A.S.*i.*; R.S.; U.C.L.*i.*
See **Amst. Jb.** *and* **Amst. Jb. Ak.**

Amst. Ak. P. ..... Koninklijke Akademie van Wetenschappen te Amsterdam. Proceedings of the Section of Sciences. Amsterdam.
1899— Camb.P.S.; Camb.U.; Chem.S.; Dub.R.I.A.; Dub.T.C.; Edinb.R.S.; Glasg.P.S.; Glasg.U.; Oxon.B.; R.A.S.; R.S.

Amst. Ak. Vh. ..... Verhandelingen der Koninklijke Akademie van Wetenschappen. Amsterdam.
1854— Camb.P.S.; Camb.U.; Dub.N.L.I.; Dub.R.I.A.*i.*; Edinb. R.S.; Glasg.P.S.*i.*; Glasg.U.; Linn.S.; N.H.M.; Oxon.B.; R.A.S.; R.S.; U.C.L.*i.*

Amst. Ak. Vs. ..... Verslagen der Zittingen van de Wis- en Natuurkundige Afdeeling der Koninklijke Akademie van Wetenschappen. 1893, 1894.
Verslagen van de Zittingen der Wis- en Natuurkundige Afdeeling van de Koninklijke Akademie van Wetenschappen. 1895, 1896.
Koninklijke Akademie van Wetenschappen te Amsterdam. Verslagen van de Gewone Vergaderingen der Wis- en Natuurkundige Afdeeling. Amsterdam.
1897— B.M.; Camb.P.S.; Camb.U.; Dub.T.C.; Edinb.R.S.; Glasg.P.S.; Glasg.U.; N.H.M.; R.A.S.; R.S.

Amst. Ak. Vs. M. ..... Verslagen en Mededeelingen der Koninklijke Akademie van Wetenschappen. Afdeeling Natuurkunde. Amsterdam.
1853—92. B.M.; Camb.P.S.; Camb.U.; Dub.T.C.; Edinb.R.S.; Glasg.P.S.; Linn.S.; N.H.M.; Oxon.B.*i.*; R.A.S.*i.*; R.S.; U.C.L.*i.*
See **Amst. Vs. Ak.**

Amst. Ak. Wet. P. ..... Processen-Verbaal van de Gewone Vergaderingen der Koninklijke Akademie van Wetenschappen, Afdeeling Natuurkunde.
1865—84. Dub.R.D.S.; Linn.S.*i.*; R.A.S.; R.S.

Amst. Arch. Wisk. Gn.... Archief uitgegeven door het Wiskundig Genootschap. Amsterdam.
1856— B.M.; R.S.*i.*; U.C.L.*i.*
See **Arch. Wisk. Gn.**

Amst. I. ..... Het Instituut. Amsterdam.
1841—46. B.M.; Edinb.R.S.*i.*

Amst. Jb. .....
Amst. Jb. Ak. ..... *See* **Amst. Ak. Jb.**

Amst. Mengelwerk ..... Mengelwerk van uitgeleezene en andere Wis- en Natuurkundige Verhandelingen; door het Genootschap der Mathematische Wetenschappen, etc. Amsterdam.
1796—1816. R.S.
See **Mengelwerk Wisk. Vh.**

Amst. N. Vh. ..... Nieuwe Verhandelingen der eerste Klasse van het Koninklijk Nederlandsche Instituut van Wetenschappen, Letterkunde, en Schoone Kunsten te Amsterdam. Amsterdam.
1827—52. B.M.; Camb.U.; Dub.T.C.; Edinb.R.S.; Linn.S.; N.H.M.; R.S.

Amst. N. Ws. Ntk. Vh.... Nieuwe Wis- en Natuurkundige Verhandelingen van het Genootschap te Amsterdam. Amsterdam.
1844—54. B.M.; R.S.

Amst. Ts. Ws. Nt. Wet. Tijdschrift voor de Wis- en Natuurkundige Wetenschappen, Letterkunde, en Schoone Kunsten te Amsterdam. Amsterdam.
1847—52. B.M.; Camb.U.; Dub.T.C.; Edinb.R.S.*i.*; Linn.S.; Oxon.B.; R.S.

Amst. Vh. .....
Amst. Vh. Ak. ..... Verhandelingen der Eerste Klasse van het Koninklijk Nederlandsche Instituut van Wetenschappen, Letterkunde, en Schoone Kunsten te Amsterdam. Amsterdam.
1812—25. B.M.; Camb.U; Dub.T.C.; Edinb.R.S.; N.H.M.; Oxon.B.; R.S.

Amst. Vs. Ak. ..... *See* **Amst. Ak. Vs. M.**

A. Mt. ..... Annali di Matematica pura ed applicata...; Tortolini. Roma, Milano.
1858— B.M.; Camb.U.*i.*; Dub.R.D.S.; Dub.T.C.; Edinb.U.; Glasg.U.*i.*; Math.S.*i.*; Oxon.B.(R.); R.S.; U.C.L.
See **Tortolini A.**

List of Serial Publications

A. Mth. ..... Annals of Mathematics. University of Virginia. Charlottesville, Va.
1884— Camb.P.S.; Camb.U.; Dub.R.I.A.*i.*; Edinb.R.S.; Math.S.*i.*; Oxon.B.

Amt. Mch. S. J. ..... The [Quarterly] Journal of the Amateur Mechanical Society. London.
1872—79. B.M.; P.O.

Angers Mm. S. Ag. ..... Mémoires de la Société d'Agriculture, Sciences, et Arts. Angers.
1831— B.M.; N.H.M.*i.*; Oxon.B.*i.*; R.S.*i.*

Angers S. Sc. Bll. ..... Bulletin de la Société d'Études Scientifiques d'Angers. Angers.
1872— B.M.; N.H.M.

A. Pon. Chauss. ..... Annales des Ponts et Chaussées. Mémoires et documents relatifs à l'Art des Constructions et au Service de l'Ingénieur. Paris.
1831— B.M.; Camb.U.; Edinb.U.*i.*; Glasg.P.S.*i.*; Glasg.U.*i.*; P.O.; R.S.*i.*
See **Par. A. Pon. Chauss.**

A. Ps. C. ..... Annalen der Physik und Chemie; Poggendorff. Leipzig.
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1806. B.M.; Camb.U.; R.S.

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1869— B.M.; Camb.U.; N.H.M.

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1878— Math.S.; R.S.*i.*

Haarl. Ms. Teyl. Arch.... Archives du Musée Teyler. Haarlem.
1866— B.M.; Camb.P.S.; Camb.U.; Dub.R.I.A.*i.*; Edinb.R.S.; Glasg.P.S.; N.H.M.; Oxon.R.; R.A.S.; R.S.

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1814—18. B.M.; R.S.

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0820 General theory of complex numbers. (*See also* 2870.)

d'Alembert's equation

$$(1+h\sqrt{-1})^m = (1-h\sqrt{-1})^m.$$

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$$\sum_{r=1}^{r=n} r^k.$$

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$$\sum_{r=1}^{r=n} r^3.$$

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$$\sum_{r=1}^{r=n} (2r-1)^k.$$

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$$\sum_{r=1}^{r=n} (2r-1)^k \quad (k=3).$$

Dostor, G. Arch. Mth. Ps. 64 (1879) 356–.

$$\sum_{r=0}^{r=n-1} (a+rd)^m.$$

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$$(x-a)(x-b)f_1(x) = -F(x) + f(x)\left\{\frac{F(a)x-b}{f(a)a-b} + \frac{F(b)x-a}{f(b)b-a}\right\}.$$

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where $\omega=\cos\frac{2\pi}{n}+\sqrt{-1}\sin\frac{2\pi}{n}.\Big]$

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$$\int_0^\infty \int_0^\infty \phi\,(ax^m \pm by^n)\, x^{p-1} y^{q-1}\, dx\, dy,$$

$$\int_{-\infty}^{+\infty} \int_{-\infty}^{+\infty} \phi\,(ax^m \pm by^n)\, x^{p-1} y^{q-1}\, dx\, dy.$$

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$$\int_b^c \int_0^b \frac{\log(\mu^2 - \nu^2)\, d\mu\, d\nu}{\sqrt{(c^2-\mu^2)(\mu^2-b^2)(c^2-\nu^2)(b^2-\nu^2)}}.$$

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$$f(n)=B_1\psi(n,1)+B_2\psi(n,2)+\ldots$$

where $f(n)=A_1\phi(n,1)+A_2\phi(n,2)+\ldots$

and $\psi(n,k)=a_1\phi(n,1)+a_2\phi(n,2)+\ldots.$

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where

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$$\left[\frac{z^{\mu}}{\mu!} \pm \frac{z^{\mu+n}}{\mu+n!} + \frac{z^{\mu+2n}}{\mu+2n!} \pm \ldots (n=4)\right].$$

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$$\left[R_n x = (-1)^n e^x \frac{d^n}{dx^n}(e^{-x} \cdot x^n)\right].$$

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$$(-1)^m=\frac{n_m}{(2n)_{2m}}=F(-2m,\ -n,\ -2n,\ 2).$$

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(*See also* 4040, 4060, 7660.)

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(*See also* 4040, 4060, 7650.)

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$$\int_0^\infty \frac{x^{m-1}-1}{1-x^2}\,dx = \frac{\pi}{2}\cot\frac{m\pi}{2} \text{ if } 2>m>0.$$

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